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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTORNEY DOCKET NO.: AUS990889US1

In re Application of:

**BERSTIS, ET AL.**

Serial No.: **09/444,617**

Filed: **November 22, 1999**

For: **METHOD AND SYSTEM FOR  
VERIFYING CONTROL ACCESSES  
BETWEEN A DEVICE ON A NON-  
PROPRIETARY BUS AND A DEVICE  
ON A PROPRIETARY BUS**

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Examiner: **ZIA, S.**

Art Unit: **2131**

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Technology Center 2100

**APPEAL BRIEF**

Mail Stop Appeal – Patents  
Commissioner for Patents  
PO Box 1450  
Alexandria, Virginia 22313-1450

Sir:

This Appeal Brief is submitted in triplicate in support of an Appeal of the Examiner's final rejection of Claims 1-18 in the above-identified application. A Notice of Appeal was filed in this case on February 19, 2004 and was received by the PTO on February 26, 2004. Please charge the fee of \$330.00 due under 37 C.F.R. § 1.17(c) for filing the brief, as well as any additional required fees, to **IBM DEPOSIT ACCOUNT NO. 09-0447**.

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**CERTIFICATE OF MAILING**  
37 CFR 1.8(A)

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April 23, 2004  
Date

Usheniseramdeen  
Signature

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### **REAL PARTY IN INTEREST**

The real party in interest in the present Appeal is International Business Machines Corporation, the Assignee of the present application, as evidenced by the Assignment recorded at reel 010403 and frame 0022.

### **RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences known to Appellants, the Appellants' legal representative, or assignee, which directly affect or would be directly affected by or have a bearing on the Board's decision in the pending appeal.

### **STATUS OF THE CLAIMS**

Claims 1-18 stand finally rejected by the Examiner as noted in the Final Office Action dated January 22, 2004.

### **STATUS OF AMENDMENTS**

No amendment was submitted subsequent to the Final Office Action dated January 22, 2004.

### **SUMMARY OF THE INVENTION**

A proprietary bus is a bus intended for the private use of an original equipment manufacturer (OEM). Thus, accesses to a proprietary bus are generally restricted in order to limit any liability from actions that may be caused by inappropriate commands being sent on the proprietary bus. One example of a proprietary bus is the Controller Area Network (CAN) bus originally developed for the automotive industry in the late 1980s. Because the CAN bus has a high bit-rate with a high immunity to electrical interference and an ability to detect any errors produced, the CAN bus has been widely used throughout the automotive and aerospace industries over the years.

The present disclosure describes a method and an apparatus for detecting an attempt to install an unauthorized non-proprietary device on a non-proprietary bus that is coupled to a proprietary bus within a vehicle environment. In accordance with a preferred embodiment of the

present invention, a gateway controller, such as gateway controller 20 in Figure 1, is connected between a proprietary bus, such as OEM bus 11 in Figure 1, and a non-proprietary bus, such as non-proprietary bus 12 in Figure 1, within a vehicle environment. In response to a non-proprietary device being coupled to the non-proprietary bus within the vehicle environment, a determination is made as to whether or not the non-proprietary device has been registered to **more than one** gateway controller, as shown in block 51 of Figure 4. In response to a determination that the non-proprietary device has been registered to more than one gateway controller, another determination is made as to whether or not the non-proprietary device is a portable device, as depicted in block 52 of Figure 4.

In response to a determination that the non-proprietary device is a portable device, another determination is made as to whether or not a predetermined number of acceptable **multiple registrations for a portable device** in more than one gateway controller has been exceeded, as shown in block 53 of Figure 4. In response to a determination that the predetermined number of acceptable multiple registrations for a portable device in more than one gateway controller has been exceeded, a flag is set to indicate that the non-proprietary device is not authorized to access the proprietary bus that is coupled to the non-proprietary bus within the vehicle environment, as depicted in block 54 of Figure 4.

Thus, Appellants' invention determines when a single, non-proprietary device (which may be portable) has been (connected to and) registered with more than one gateway controller (i.e., multiple registrations by the same portable device to different gateway controllers of different vehicles). The invention operates with the assumption that portable devices may be registered for access to more than one gateway controller but that the portable device has a limitation on the number of different accesses are permitted. Restriction on further access to (or registration with) additional gateway controllers are indicated by setting a flag.

### ISSUES

Two issues are presented for appeal. The primary issue is whether the Examiner's rejection of Claims 1-6 under 35 U.S.C. § 103(a) as being unpatentable over *Colson et al.* (US 6,574,734) in view of *Reardon* (US 6,212,635) is well-founded? The secondary issue is whether

the Examiner's rejection of Claims 7-18 under 35 U.S.C. § 103(a) as being unpatentable over *Colson* in view of *Berra* (US 5,459,660) is well-founded?

Resolution of these issues entails a determination whether *Colson* or either of the provided combinations of *Colson and Reardon* or *Colson and Berra* suggests to one skilled in the art the step of determining whether a portable, non-proprietary device has exceeded the number of registrations to more than one gateway controller authorized for that device.

### **GROUPING OF THE CLAIMS**

For purposes of this Appeal, Claims 1-18 stand or fall together as a single group.

### **ARGUMENT**

#### **THE EXAMINER'S REJECTIONS OF APPELLANTS' CLAIMS 1-18 ARE NOT WELL-FOUNDED AND SHOULD BE REVERSED.**

##### **I. *Colson* does not teach or suggest the claimed determining steps and associated response thereto.**

Exemplary Claim 1 (and similar Claims 3 and 5) recites a series of determining steps, which include:

- (1) "determining whether or not said non-proprietary device has been **registered to more than one** gateway controller;"
- (2) "in response to a determination that said non-proprietary device has been registered to more than one gateway controller, **determining** whether or not said non-proprietary device is a **portable** device;" and
- (3) "determining whether or not a **predetermined number of acceptable multiple registrations** for a portable device in more than one gateway controller has been **exceeded**" (emphases added).

Following that series of determining steps, exemplary Claim 1 then recites "setting a flag to indicate said non-proprietary device is not authorized to access a proprietary bus..."

On page 3 of the Final Office Action, the Examiner asserts that *Colson* teaches the

claimed determining steps and Examiner relies on specific sections of *Colson* to support these assertions. A general review of *Colson* reveals that *Colson* does not address the registration of a single, portable device with multiple (or more than one) gateway controllers, as provided by Appellants' exemplary claim. Further, a careful examination of the referenced sections of *Colson*, however, reveals that *Colson* fails to teach or suggest any of the determining steps or combination of those determining steps recited by Appellants' claims.

With respect to the step of "determining whether or not said non-proprietary device has been **registered to more than one** gateway controller," for example, column 4, lines 25-63 of *Colson* describes a registry mechanism, "which provides naming and directory services for the software components" of an automotive computing platform. The registry mechanism is utilized for registering "the existence of devices and other system software services" and "includes an authorization level ... associated with each of the software components." Also, as disclosed by that section, "multiple versions of a software component may exist that match a request from an application" each of which may have a different authorization level.

Similarly, Col. 9, line 59-col.10, line 12 of *Colson* describes ... how an "application running on the automotive computing platform can access components representing devices and software service functionality." The steps of this process includes: (1) "discover component registry," (2) "query the component database 200 to determine if the required functionality is conveyed by a component registered...", and (3) "return to application 500, a reference to that component."

Neither of these sections mentions or suggests "determining ... registered to **more than one** gateway controller." Therefore, it appears that Examiner has misunderstood the importance of this aspect of the claimed feature as it relates to the overall functionality being provided by Appellants' invention. While *Colson* is merely concerned whether a component is registered within the individual registry mechanism for that specific automobile computing platform, Appellants' claimed features describe a series of pre-registration checks to determine whether a device is portable and whether the portable device may be registered to more than one gateway controller, each affiliated with a different vehicle environment or vehicle computer.

With respect to the step of "determining whether or not said non-proprietary device is a portable device," col. 8, lines 53-62 of *Colson*, relied on by Examiner states:

*It is obvious to those skilled in the art that this process of registration can occur at any time. Typically, many components will be registered with the automotive computing platform's registry during early development of the automobiles' computing platform. However, these components also may be added to the registry well after the automobile is produced, shipped to the dealer and sold to the end-customer. By not restricting where component registration can be done, we support aftermarket addition of new devices to the automobile.*

It is clear from the above-mentioned passage that *Colson* does not teach or suggest the step of "determining whether or not said non-proprietary device is a portable device," as claimed by Examiner. That section of *Colson* is devoid of any reference or suggestion of a portable device and/or the determining whether a component is a portable device that may be registered with more than one gateway controller.

With respect to the step of "determining whether ... a predetermined number of acceptable registrations ... has been exceeded," col. 7, lines 21-58 of *Colson* describes (1) a discovery mechanism for locating the component registry and (2) a lookup mechanism for querying the contents of component database. Col. 9, lines 59-col. 10, lines 12 is described above. Col. 10, lines 16-37 describes use of an authentication token to restrict access to components. However, nowhere in these sections of *Colson* is there any reference to "determining whether ... a predetermined number of acceptable registrations ... has been exceeded."

One skilled in the art would read and understand *Colson's* invention as merely reading a list of registered components within a single vehicle environment, where each component within the single vehicle environment is registered once and may be accessed by an application with authorization to access the component. Thus, *Colson* clearly does not teach or suggest the determining steps and functionality associated therewith, which are recited by Appellants'



exemplary Claim 1.

## **II. There is no motivation to combine the teachings of *Colson* and *Reardon***

Claim 1 (and similar Claims 3 and 5) recites a step of "in response to a determination that said predetermined number of acceptable multiple registrations for a portable device in more than one gateway controller has been exceeded, setting a flag to indicate said non-proprietary device is not authorized to access a proprietary bus that is coupled to said non-proprietary bus within said vehicle environment." On page 4 of the Final Office Action, the Examiner states that *Colson* does not disclose the claimed setting step. However, the Examiner asserts that the claimed setting step is disclosed by *Reardon* in col. 17, lines 5-11 and col. 24, lines 52-59, and that it would have been obvious to one of ordinary skill in the art to combine the teachings of *Colson* and *Reardon* to render the claimed invention obvious.

Appellants have already established the fact that *Colson* does not teach or suggest the step of determining whether or not a non-proprietary device is a portable device. Additionally, Appellants have established that the condition precedent of the claimed setting step (*i.e.*, in response to a determination that ... multiple registrations ... in more than one-gateway controller ... exceeded) is not disclosed by *Colson* in either col. 7, lines 21-58 or col. 9, lines 59 - col. 10, lines 37. *Colson* therefore would have had absolutely no motivation to disclose the step of determining whether the predetermined number of acceptable multiple registrations for a portable device in more than one gateway controller has been exceeded.

Furthermore, *Colson* is related to a vehicle environment, and *Reardon* is related to a computer network. *Reardon* discloses that a security gateway can flag an intrusion if a computer program attempts to read certain sections of random access memory that are tagged as critical to security (col. 17, lines 7-10). Thus, there is no motivation or suggestion by *Reardon* to set a flag for the purpose of indicating an unauthorized non-proprietary device has attempted to access a proprietary bus that is coupled to a non-proprietary bus within a vehicle environment.

It is apparent that the Examiner had relied upon Appellants' claim language as a "blueprint" to reconstruct the claimed invention from the prior art. However, such hindsight

reconstruction cannot be utilized by the Examiner to pick and choose among disclosures in the prior art to make the § 103 rejection. Thus, *Reardon* cannot be combined with *Colson* for the § 103 rejection unless some nexus exists between *Reardon* and *Colson*, which nexus can be provided by the Examiner.

**III. Neither the combination of *Colson* and *Reardon* or *Colson* and *Berra* teaches or suggests the determining steps or other dependent claim features.**

(a) Even if motivation could be found to combine *Colson* with *Reardon*, that combination would also not suggest the features that are provided by the determining step and associated response. Examiner relies on *Reardon* solely to support a teaching of “setting a flag to indicate said non-proprietary device is not authorized to access a proprietary bus,” since *Reardon* does not teach or suggest the claimed determining steps.

(b) Likewise, the combination of *Colson* and *Berra* does not suggest the claimed “determining” steps. Examiner relies on *Berra* solely to support the rejection of Appellants’ recitation of “a wireless link between a wireless communications device.” Notably, the specific section of *Berra* cited to support this reference (*i.e.*, col. 3, lines 21-44) does not even mention the terms “wireless link” or “wireless communications” devices. That section describes a “signal transfer structure 16” which appears as an actual wired connection between the vehicle’s interconnected components, where “[t]he signal transfer structure 16 may also include individual serial communication links to on-board vehicle computer circuits...” (ll 44-49). The functionality provided by the wireless link and communication devices within the device registration process is therefore not suggested by *Berra* or the combination of *Colson* and *Berra*.

(c) Examiner mischaracterizes what is taught in several sections of the references used to provide support for the 103 rejections. Thus, several other features provided by the dependent claims are not taught or suggested by any of the references or combinations of references. For example, Claim 10 (and similar Claim 14 and 18) states that the claimed portable devices (*i.e.*, non-proprietary devices) is a compact disc player. On page 9 of the Final Office Action, the Examiner asserts that such portable device is disclosed by *Colson* in col. 6, lines 23-54. After a careful review of the cited passage, however, Appellants did not find any mention of a compact

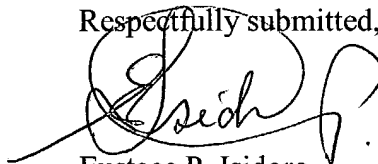
disc player.

Since the cited references, whether considered separately or combined, do not teach or suggest the claimed invention, the §103 rejections based on the above combinations are improper.

### CONCLUSION

With the above arguments, Appellants have pointed out with specificity the manifest error in the Examiner's rejections, and the claim language which renders the invention patentable over the combination of references. The rejections under 35 U.S.C. § 103 are thus not well-founded. Appellants, therefore, respectfully urge the Board reverse the Examiner's rejection and remand the case to the Examiner with instructions to issue a Notice of Allowance with respect to all pending claims.

Respectfully submitted,



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ATTORNEY FOR APPELLANTS

## APPENDIX

1. A method for detecting an attempt to install an unauthorized non-proprietary device on a non-proprietary bus that is coupled to a proprietary bus via a gateway controller within a vehicle environment, said method comprising:

in response to a coupling of a non-proprietary device to a non-proprietary bus within a vehicle environment, determining whether or not said non-proprietary device has been registered to more than one gateway controller;

in response to a determination that said non-proprietary device has been registered to more than one gateway controller, determining whether or not said non-proprietary device is a portable device;

in response to a determination that said non-proprietary device is a portable device, determining whether or not a predetermined number of acceptable multiple registrations for a portable device in more than one gateway controller has been exceeded; and

in response to a determination that said predetermined number of acceptable multiple registrations for a portable device in more than one gateway controller has been exceeded, setting a flag to indicate said non-proprietary device is not authorized to access a proprietary bus that is coupled to said non-proprietary bus within said vehicle environment.

2. The method of Claim 1, wherein said method further includes setting a flag to indicate said non-proprietary device is not authorized to access a proprietary bus that is coupled to said non-proprietary bus, in response to a determination that said non-proprietary device is not a portable device.

3. An apparatus capable of detecting an attempt to install an unauthorized non-proprietary device on a non-proprietary bus that is coupled to a proprietary bus via a gateway controller within a vehicle environment, said apparatus comprising:

means for determining whether or not a non-proprietary device has been registered to more than one gateway controller, in response to a coupling of said non-proprietary device to a non-proprietary bus within a vehicle environment;

means for determining whether or not said non-proprietary device is a portable device, in

response to a determination that said non-proprietary device has been registered to more than one gateway controller;

means for determining whether or not a predetermined number of acceptable multiple registrations for a portable device in more than one gateway controller has been exceeded, in response to a determination that said non-proprietary device is not a portable device; and

means for setting a flag to indicate said non-proprietary device is not authorized to access a proprietary bus that is coupled to said non-proprietary bus within said vehicle environment, in response to a determination that said predetermined number of acceptable multiple registrations for a portable device in more than one gateway controller has been exceeded.

4. The apparatus of Claim 3, wherein said apparatus further includes a means for setting a flag to indicate said non-proprietary device is not authorized to access a proprietary bus that is coupled to said non-proprietary bus, in response to a determination that said non-proprietary device is not a portable device.

5. A computer program product residing on a computer usable medium for detecting an attempt to install an unauthorized non-proprietary device on a non-proprietary bus that is coupled to a proprietary bus via a gateway controller within a vehicle environment, said computer program product comprising:

program code means for determining whether or not a non-proprietary device has been registered to more than one gateway controller, in response to a coupling of said non-proprietary device to a non-proprietary bus within a vehicle environment;

program code means for determining whether or not said non-proprietary device is a portable device, in response to a determination that said non-proprietary device has been registered to more than one gateway controller;

program code means for determining whether or not a predetermined number of acceptable multiple registrations for a portable device in more than one gateway controller has been exceeded, in response to a determination that said non-proprietary device is not a portable device; and

program code means for setting a flag to indicate said non-proprietary device is not authorized to access a proprietary bus that is coupled to said non-proprietary bus within said

vehicle environment, in response to a determination that said predetermined number of acceptable multiple registrations for a portable device in more than one gateway controller has been exceeded.

6. The computer program product of Claim 5, wherein said computer program product further includes a program code means for setting a flag to indicate said non-proprietary device is not authorized to access a proprietary bus that is coupled to said non-proprietary bus, in response to a determination that said non-proprietary device is not a portable device.

7. The method of Claim 1, wherein said determining whether or not said non-proprietary device has been registered to more than one gateway controller further includes determining whether or not said non-proprietary device has been registered to more than one gateway controller via a wireless link between a wireless communication device on said non-proprietary bus and a database within a remote server.

8. The method of Claim 1, wherein said proprietary bus is an original equipment manufacturer bus.

9. The method of Claim 1, wherein said non-proprietary device is a radio.

10. The method of Claim 1, wherein said non-proprietary device is a compact disc player.

11. The apparatus of Claim 3, wherein said means for determining whether or not said non-proprietary device has been registered to more than one gateway controller further includes mean for determining whether or not said non-proprietary device has been registered to more than one gateway controller via a wireless link between a wireless communication device on said non-proprietary bus and a database within a remote server.

12. The apparatus of Claim 3, wherein said proprietary bus is an original equipment manufacturer bus.

13. The apparatus of Claim 3, wherein said non-proprietary device is a radio.
14. The apparatus of Claim 3, wherein said non-proprietary device is a compact disc player.
15. The computer program product of Claim 5, wherein said program code means for determining whether or not said non-proprietary device has been registered to more than one gateway controller further includes program code means for determining whether or not said non-proprietary device has been registered to more than one gateway controller via a wireless link between a wireless communication device on said non-proprietary bus and a database within a remote server.
16. The computer program product of Claim 5, wherein said proprietary bus is an original equipment manufacturer bus.
17. The computer program product of Claim 5, wherein said non-proprietary device is a radio.
18. The computer program product of Claim 5, wherein said non-proprietary device is a compact disc player.